

# ENZYMES HAVING POLYMERASE ACTIVITY AND METHODS OF USE THEREOF

## ABSTRACT

The invention relates to thermostable polymerases that have polymerase activity temperatures in the range from 90° C up to 113° C, such as those derived from *Pyrolobus fumaria*, and to polynucleotides encoding the polymerases. In addition, methods of designing new thermostable DNA polymerases and methods of use thereof are also provided. The polymerases have increased activity and stability at increased pH and temperature.

5